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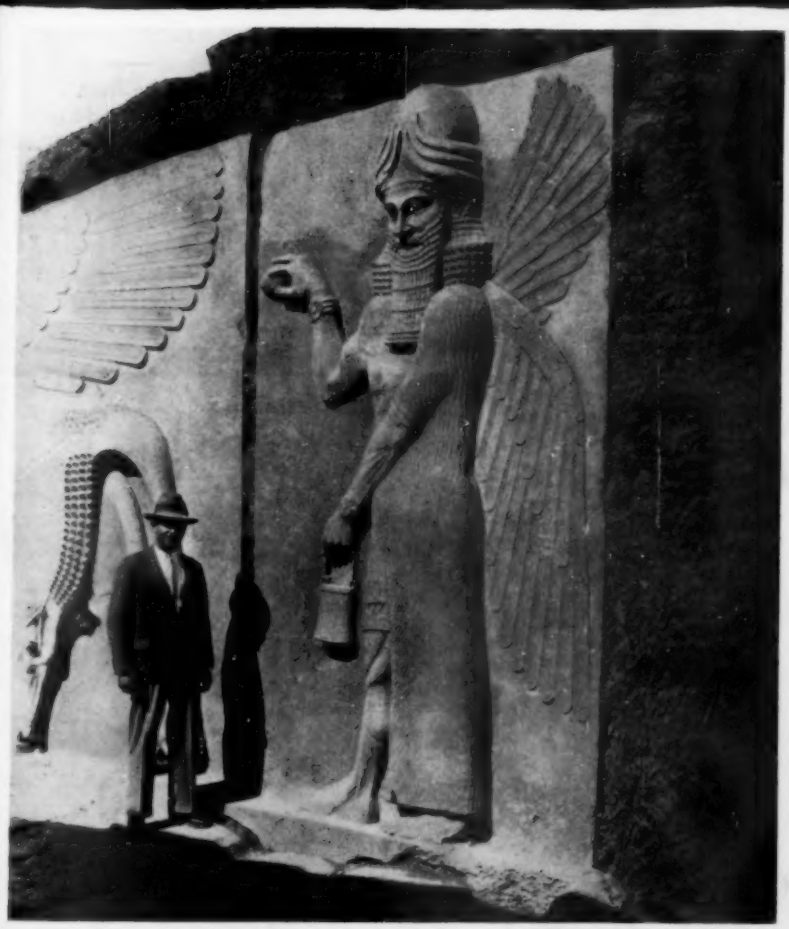
# SCIENCE NEWS LETTER

THE WEEKLY SUMMARY OF CURRENT SCIENCE •



AUGUST 11, 1934

Guardian of the Gate

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A SCIENCE SERVICE PUBLICATION

# SCIENCE NEWS LETTER

*VOL. XXVI* *No. 696*

The Weekly Summary of Current Science

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*Edited by* WATSON DAVIS

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# DO YOU KNOW?

About 100 persons die every year in the United States from rabies.

Tumors may develop and become very large in certain parts of the brain without causing any mental disturbance.

The cooling process which the earth is undergoing is extremely slow because of the insulating effect of the thick crust.

Yellowstone Park added a couple of new weather records this year by having the driest May and the wettest June in its history.

By moving pictures taken at the rate of 72 exposures per second, a scientist has studied distribution of pressure in the human foot at successive moments in walking.

An eye specialist has perfected non-shatterable goggles which protect mountain climbers and Polar explorers against snow blindness, yet provide full range of vision.

The plant life of the Sonora Desert, part of the arid region of North America, is to be intensively studied by scientists.

It is expected that 35,000,000 people will visit the national forests of this country in the course of the current year.

Men of the late Stone Age in Europe had for domestic animals the cow, pig, sheep, goat, and dog, and possibly the horse.

It is estimated that nearly one person in three in the United States over forty years of age is suffering from some chronic disease.

Experiments indicate that the liability of wood to attack by certain beetles and fungi is in proportion to the amount of starch remaining in the sap wood.

The year ending May 31, 1934, was the driest on record for Indiana, Illinois, Wisconsin, Minnesota, Iowa, Nebraska, Missouri, South Dakota, and North Dakota.

# WITH THE SCIENCES THIS WEEK

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RADIO

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ZOOLOGY

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***These curiosity-arousing questions show at a glance the wide field of scientific activity from which this week's news comes. Book references in italic type are not sources of information for the article, but the references for further reading. Books cited can be supplied at Book Department, Science News Letter, at publishers' prices, postpaid in the United States.***

ANTHROPOLOGY

# "Lost Peoples" of New Guinea Were First Seen by German

## Before the War and the Turning Over of the Territory To Australia, Dr. Hermann Detzner Found "Semites"

DISCOVERY of the "lost peoples" of New Guinea, reported by the Australian anthropologist E. W. P. Chinnery before the International Congress of Anthropological and Ethnological Sciences, is no new thing under the sun.

The same peoples were seen and partially studied by a German, Dr. Hermann Detzner, formerly an official in the pre-war German possessions in the Far East. In 1914, just before the outbreak of the World War, Dr. Detzner discovered the high-lying plateau described by Mr. Chinnery and visited two or three of the tribes who lived on it.

Then came news of the outbreak of the War. Dr. Detzner could not get out, because Australian forces had occupied all the ports of German New Guinea, and he would have been captured and interned as a prisoner, since he held a major's commission in the Imperial German Army. So he plunged into the interior, living with and like the natives, and evaded capture until 1918. Due to lack of food—he had to live chiefly on sweet potatoes—he was worn down to a 97-pound shadow of a man by the time he finally emerged.

In the meantime, the Australian forces had captured from one of his assistants some of his books of scientific notes on the tribes. Others he had buried. These were ruined by decay. Thus Dr. Detzner was able to publish only an incomplete account of his studies in the German scientific journals.

### Invited to Congress

After the War, the League of Nations mandated to Australia the former German territory in New Guinea, thus opening the way for Mr. Chinnery's later explorations on behalf of the Australian government. As a courtesy to a former opponent and at the same time the real proto-discoverer of this newest "lost world," the Commonwealth invited Dr. Detzner to attend the International Congress. The German explorer in turn has complimented Mr. Chinnery on his success, stating that the recent exploration was more complete than his own earlier one.

### Smooth-Shaven "Semites"

The bearded tribe which Mr. Chinnery named the Wahgi was called Rocke, or "skirted," by Dr. Detzner because the men wear skirts. The smooth-shaven people called Purari by Mr. Chinnery received the nickname "Semites of Papua" because of the characteristic and striking facial types found among them.

*Science News Letter, August 11, 1934*

**SEMITIC?**

***Perhaps it is just as well, for the peace of mind of Germany's new "All-Highest Lord," that the Reich lost its Papuan lands to Australia during the World War; for these Semitic-appearing types are fairly common among the natives of the former German possessions on the great tropical island of New Guinea.***

ANTHROPOLOGY

# "Semitic" Faces Common Among New Guinea Natives

"SEMITIC" faces on brown Papuans in the mountain fastnesses of New Guinea, which have caused comment in connection with the "lost tribes" discovered by E. W. P. Chinnery, Australian scientist-explorer, are really nothing uncommon in that part of the world. Bold, convex noses on dark-skinned faces are rather frequent not only in many parts of New Guinea but even more so in islands farther toward the east, especially in the Solomon Archipelago. Their presence among the estimated 200,000 newfound tribesmen is not, therefore, a source of particular wonder.

Two American scientists who have penetrated into the interior of New Guinea, M. W. Stirling, anthropologist of the Smithsonian Institution, and Dr. E. W. Brandes, botanist of the U. S. Department of Agriculture, showed a representative of Science Service many pictures of Papuans with decidedly "Semitic" countenances, ranging all the way from the finely-chiseled aristocratic Sephardic type to the low-comedy mask of slapstick burlesque.

There is no need, however, to find in New Guinea another abiding-place of those most-travelled of the sons of men, the Ten Lost Tribes of Israel. Neither is it necessary to credit the noses to the Semitic Arabs, who were traders, slavers and conquerors throughout the East Indian region during several medieval centuries. It is not impossible, to be sure, that the Arabs brought the noses; but the much-mixed dark-skinned peoples of the Far Eastern islands have always been able to produce features of an astonishing variability within the limits of a single tribe.

Two of the tribes reported by Mr. Chinnery are widely separated, Dr. Brandes stated. The Kukukuku he knew by name as a tribe of the high mountain country. The Purari, however, are a coast people, living on the delta formed by one of the rivers of southern New Guinea where it meets the sea. Mr. Chinnery's third tribal name, the Ramu, was unfamiliar to Dr. Brandes.

Dr. Brandes' explorations were conducted as a part of the Department of

Agriculture's research for better disease-resistant varieties of sugar cane. He flew in a pontoon-equipped airplane over a great deal of mountain territory near the region explored by Mr. Chinnery, landing at will on the many inland lakes.

Mr. Stirling expressed considerable skepticism over some details of the first press reports of Mr. Chinnery's discoveries. Efforts to link the mountain peoples with ancient Egypt through the type of stone mortars used in grinding flour, he felt, were unjustified, since mortars are a common kind of household utensil among peoples of a simple culture-level everywhere.

"It is much more likely," he said, "that we have here a group of tribes, hitherto unknown or little known, but which in the end will prove to be quite similar in racial makeup and customs to their nearest neighbors in the already known parts of the New Guinea uplands."

*Science News Letter, August 11, 1934*

FORESTRY

# Lightning and Drought Cause Over 100 Forest Fires

LIGHTNING and excessively dry conditions throughout the Northern Pacific States were responsible for over 100 forest fires during the week ending August 4.

High winds fanned one blaze of 3,000 acres near Curlew, Wash., into a roaring furnace covering 18,000 acres.

Another fire originating in Canada crossed the border over a three-mile front and entered Coleville National Forest near Vulcan Mountain. A total of nearly a thousand men from C.C.C. camps and the neighboring region fought the two conflagrations.

Lightning storms caused 45 fires in the Wenatchee National Forest alone. Of the 25 that were burning in the Chelan Forest, three were reported as class C, which means over ten acres were burned. These three have laid bare a total of 780 acres of heavily wooded landscape.

Region one, the northern Rockies in Central Idaho and Montana, was at last reports still in a critical state. Koniksu, Kootenai, Selway, Bitterroot and Clearwater National Forests all had fires. All but one in Koniksu and Kootenai were controlled. In Clearwater Forest a fire raging over 8,000 acres was reported to be well manned with C.C.C. crews.

Snoqualmie National Forest, in Washington, has suffered severely from 19 fires. One burned off 1,500 and another 3,000 acres of big timber.

The Forest Service has not as yet computed the extent of the damage done in the West. Reports up to the present time, however, show that this year is heading for a record of destruction from forest fires.

So far, the number of forest fires in 1934 showed an increase of 66 per cent. over the average for a comparable period in the past three years. Officials of the U. S. Forest Service believe that this large increase is in part due to the lack of rain throughout the country.

National and state forests have become like tinder in a great many large areas. The smallest spark is likely to ignite the scorched underbrush and in a very short time a blaze is raging for miles across a wooded countryside.

If the number of fires increases at the same rate throughout this year the total number will exceed the total of 140,722 fires recorded for 1933. The area burned last year was 43,889,820 acres, with a total damage, estimated as accurately as possible by the Forest Service, of $60,274,960.

Only 3,722,920 acres of the land burned in 1933 were in areas protected by the Forest Service and state forestry organizations. The other 90 per cent. of the damage occurred in regions not included in the 160,000,000 square miles (100,000,000,000 acres) of National Forests. The heavily damaged areas lie in sparsely populated regions of the South and West that have not as yet been dotted with fire stations.

*Science News Letter, August 11, 1934*

**BEAR-PROOF**

***Here's how rangers in Yellowstone National Park protect their beans and bacon from marauding black bears that make things uncomfortable for the cook who does'nt take precautionary measures in storing his food. A huge cage is suspended between two trees on a wire, and is lowered or raised on pulleys. The trees themselves are encased in metal from the base to about 12 feet upward to make sure that Bruin can't get a toe-hold and climb up to do a tight-wire act.***

ZOOLOGY

## More Moose Seen By Tourists in Yellowstone

MOOSE, seldom seen in Yellowstone National Park by casual visitors eight or ten years ago, of recent summers have become one of the interesting tourist sights. This year these animals are being met more than ever along the roads and trails, according to Superintendent Roger W. Toll, of the park, for an abnormally large "crop" of moose calves resulted from the mild winter which turned conditions topsy-turvy in the Yellowstone.

In fact, abnormal increase in all game animals had been expected, but indications now are that except in the case of the moose the increase was not as big as anticipated. It has been impossible to make a satisfactory check on the increase of the game herds, however, as the early spring caused them to migrate to the summer range much earlier than usual, and for some reason the general route of migration apparently was abandoned. At present the game animals are found scattered all over the park. As a result the rangers are having difficulties in their attempts to count the various species.

Fortunately range conditions in the Yellowstone have shown a slight im-

provement. It was feared earlier in the season that the mild winter, without the average amount of snow, would result in bad forage conditions for the park animals. Heavy precipitation during the early part of June, however, resulted, Superintendent Toll states, in better plant growth, with the result that the volume and density of the vegetation on the summer ranges apparently is of sufficient amount to care for the animals on the summer range. Improvement of the lower slopes and valleys of the winter range also has been noted, but the higher slopes and ridges of the cold-weather feeding grounds still are in a critically denuded state and are causing park officials some concern.

*Science News Letter, August 11, 1934*

ZOOLOGY

# Yellowstone Bears Pay No Attention to Tear Gas

TEAR GAS, the same chemical that has been used effectively by police and soldiers to quell mobs, is not a weapon to be used against bears.

Rangers Frank W. Childs and Robert H. "Gus" Wylie of Yellowstone Park attacked three black bears with tear gas guns, but the animals showed only startled surprise at the report of the powder explosion that propelled the tear gas at them. They refused to weep and went on with their eating.

The Yellowstone Park officials hoped that tear gas might provide a method of discouraging over-friendly bears and driving them away from camp sites without permanent injury to the bears. While bears are one of Yellowstone's great attractions for tourists, they frequently raid automobiles and tents in which food, particularly hams and bacon, are stored. Food must be hung high in the air between two trees to keep it safe from bears.

**BEARS IGNORE TEAR GAS ATTACK**

***Tear gas that makes a strong man weep copiously has no effect on Yellowstone Park bears. Here Ranger Robert H. "Gus" Wylie is attempting to gas a black bear while Ranger Frank W. Childs snapped the camera to record the effect. The bear simply flinched at the report of the tear gas gun and then went on eating meat scraps. This bruin and two others experimentally attacked were unaffected by the same kind of tear gas that has been used to disperse mobs. Yellowstone Park officials are still looking for some harmless way of scaring off bears that rob auto tourists of food left in their cars.***

Park Rangers Wylie and Childs, thought that they had found the solution to the problem in the use of tear gas. In fact, so sure were they that tear gas would stop a bear that they set out to try their experiments on a grizzly bear. Fortunately, the grizzly bears would not let the two rangers approach near enough to use the tear gas. Finally three blacks bears, ranging in age from two to five years, were selected as subjects for the experiment.

The first bear was fired upon at a distance of 25 feet. The ten-inch tear gas gun almost jumped from Ranger Wylie's hand. The gas sprayed the head and one side of the bear. The bear, startled by the loud report, loped slowly away. Bear number two received the charge full in the face at a distance of ten feet. At the detonation of the twelve-gauge shell the bear jumped, ran a short distance, and then quite unconcernedly returned to the meat scraps he had been eating.

### A Third Trial

Bear number three was a five-year-old mother with two cubs. Some meat scraps were tossed to the ground. Five feet from the meat scraps stood Ranger Wylie with the tear gas gun, while Ranger Childs waited in readiness to photograph the results. The bear sniffed at the meat scraps and looked up inquiringly at Ranger Wylie. Boom went the tear gas gun and click went the camera. But the bear did not go; she simply flinched, glanced back at her cubs, and then settled down to enjoy the meat scraps.

"Boy," commented Ranger Wylie, "These bears can certainly take it. And to think that we were going to try it on a grizzly!"

### A Puzzle

Just why the bears are not affected by the tear gas is a puzzle. Bears have very small eyes and their eyesight is so bad that they do not rely on it to the same extent as other animals. Their sense of smell is very keen, however.

The park officials are still searching for an effective method of bear control that will not harm the bears.

*Science News Letter, August 11, 1934*

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The food gathering activities of oysters and other shellfish, working in mass, may alter the physical and chemical properties of the sea around them to a considerable degree, an oceanographic study has shown.

PALEONTOLOGY

# Midget Monsters Found in "Question Mark Quarry"

## Puzzling Prehistoric Discoveries Include What May Be Paper-Like Fossil Skin of Sauropod Dinosaurs

By DR. BARNUM BROWN, Curator of Fossil Reptiles of the American Museum of Natural History and Leader of the American Museum-Sinclair Dinosaur Expedition

WE HAVE almost decided to call the fossil deposits of Keyhole Canyon, the Question Mark Quarry, because of the constant cropping up of puzzles in fossil form to which we, as yet, have not found the answers.

During the last few days, in the course of our excavations, we have come upon small chunks of rock coated on one side with paper-thin slivers of fossil-like stuff that may be petrified skin. If that is the case, we have stumbled upon a unique discovery that may change the picture we have created of the garment Mother Nature hung upon the sauropod dinosaurs that wallowed in the lakes and swamps of the northwest some 125,000,000 years ago. These bits of supposed fossil skin are rough and ridged, like the skin of the modern gecko lizard. The accepted theory has been that sauropods had smooth skins.

### Tiny Teeth

But that is not all. More questions were flung at us through the discovery of a dozen tiny teeth about the size and shape of orange seeds, but blackened and crackled by the process of time. These teeth obviously belonged to a sauropod, not a youngster but an adult. If that conclusion is correct, we have stumbled upon the remnants of a bantam-sized relative of the 15-ton monsters now known to science. We have so far found only a few bones of these midgets monsters, but we are constantly on watch for more.

Our excavations have now reached the stage where the larger bones stick out of the sandy soil like the beams and ribs of stranded vessels. We have put picks and shovels aside and are now freeing the brittle bones from their stone wrappings, a delicate process that calls for whiskbrooms and small awls wielded with surgical skill.

One of the major questions that has been flung upon us is represented by two bones, each about two feet long, which I am inclined to think are the fore-arm bones of the small-sized ancestor of the gigantic iguanodont whose only trail in these parts are the 30- by 40-inch footprints it left in coal deposits in Wyoming and Utah.

*Science News Letter, August 11, 1934*

PSYCHOLOGY

## Nordics Not Most Wrathful Psychological Test Shows

NEW EVIDENCE from the psychological laboratory points to the conclusion that the Nordic is not, after all, the most courageous of all the Caucasians and the most terrible in his wrath. This honor, if honor it be, should very likely go to his neighbors from the south, the Mediterraneans, while the Nordic finds superiority in possession of the virtues of the average—neither phlegmatic like the Alpine nor gusty like the Mediterranean.

Thus concludes Dr. George M. Stratton, of the University of California, who has recently compared the anger and fear reactions of 1,000 university students with certain of their physical characteristics.

Is red hair the flaming signal of a violent temper? Hair color does have a definite though small relationship to tendency to anger, Dr. Stratton found. But it is the dark-haired person who has the most intense anger.

Hair color is not so good an index to temper as is the shape of the head. In the same situations, narrow-headed persons become angrier or more afraid than do those whose heads are of medium proportions or broad. Those with heads of medium width are most phlegmatic, showing the least intense fear and anger.

The greatest contrast is not between those of widely different features, but between the middle group and those of one or other of the extremes.

In the Nordic stock, Dr. Stratton points out, a narrow head is joined with light hair and light eyes; in the Alpine, a broad head is combined with medium hair and medium eyes; and in the Mediterranean stock, a narrow head is joined with dark hair and dark eyes.

### "Nordics" Not Extreme

Among the students studied by Dr. Stratton, only a few could be defined as belonging to any one of these groups on the basis of all three characteristics, head shape, hair, and eye color. But when the "racial" classification was made on the basis of either head shape and color of eyes or head shape and color of hair, the number of cases was large enough so that the results were significant. It then became evident that those displaying Mediterranean physical characteristics have the most intense emotional reactions. Next came the "Nordics" and last the "Alpine."

"In some respects this order is in accord with the frequent opinion that the South European (for example, the Italian or the Spaniard) is more emotional than the European of the Center or of the Northwest; and with the opinion, perhaps less frequent, that the Alpine is the most phlegmatic of the three European stocks," Dr. Stratton said.

"The present indications lend no support, however, to the opinion that the race of long-headed, light-haired, blue-eyed folk of Northwestern Europe are the most courageous of all the Caucasians, and the most terrible in their wrath."

### A Mystery Group

Another mystery group was, however, discovered by Dr. Stratton whose physical features do not fit the usual description of European stocks. This group has dark hair and dark eyes and a head of medium width. In its dark hair and eyes, it seems to be Mediterranean and its head-shape seems to be within the border of the Mediterranean stock as often defined. Yet this nameless group is emotionally at the opposite pole from the Mediterranean. They show a lower average degree of fear and of anger than does even the least intense of the three strains, the "Alpine."

Dr. Stratton's report will appear in the *American Journal of Psychology*.

*Science News Letter, August 11, 1934*

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The only plausible reason for the grapefruit's name is that the fruits grow in clusters like giant bunches of grapes.

ARCHAEOLOGY

# Ruins of Sargon's Palace Yield New Magnificences

## Human-Faced Bulls and Winged, Horn-Turbaned "Genii" Guard the Gate Through Which the King Passed

MERMAIDS, unicorns, sphinxes, and the strange winged "genii" typical of Assyrian sculptural art have been dug up by archaeologists of the Oriental Institute, University of Chicago, working under Dr. Henry Frankfort, in the ruins of Khorsabad in Mesopotamia.

Khorsabad was the capital of King Sargon of Assyria, who reigned early in the eighth century, B. C. For some reason he was dissatisfied with Nineveh, the ancient capital of his nation, and decided to build a new royal city for himself. His venture in city-building, however, was not permanent; after his death his successor returned to Nineveh, and Khorsabad's magnificent palaces and temples were left to crumble and be drifted over by centuries of desert dust, undisturbed until the spades of the Oriental Institute's workmen broke through.

Outstanding among the new finds are four great carved panels that guarded the palace entrance. Two of these bear representations of the human-faced winged bulls, the guardian genii of Assyrian sacred and official places. The other two show winged genii in human form, wearing horned turbans to show their supernatural character. These appear to be sprinkling the bulls with sacred water from small pails which they carry in their left hands. All four of the figures are of heroic size, approximately three times as tall as a man.

### Phenician Ideas

The Assyrians, a nation of conquerors, had many (if rough) contacts with other peoples and absorbed some of their ideas. Thus, among the palace and temple sculptures Dr. Frankfort lists winged sphinxes, which are Phenician, and back of that originally Egyptian.

Connected with the palace by a special corridor was a temple to the god of historians and writers, Nabu, and on the wall of the corridor is inscribed a prayer to the god by the king. Nabu must have been favorable to the supplication of Sargon; for he is still one of the best remembered of all the rulers of that ancient and far-away land.

Sargon ruled when Assyria and Egypt were fighting it out for world dominance. The Kingdom of Israel, lying between these two giants, frequently got tramped on during their struggles. The twentieth chapter of the Book of Isaiah records an attack by one of Sargon's generals on an Egyptian stronghold, Ashdod.

*Science News Letter, August 11, 1934*

PHYSICS

# Part of Records Saved From Stratosphere Wreck

TWO complete and valuable scientific records have been salvaged from what at first appeared to be a hopeless tangle of wrecked instruments in the gondola of the ill-fated balloon Explorer of the National Geographic-Army Air Corps stratosphere expedition.

One film record is the complete history of cosmic ray intensity measurements from one of the detectors. The other is a record of temperatures in and out of the gondola, sun and sky brightness, the time of each measurement and the tilt of the gondola during flight.

Finding these two valuable records spurs the hope that elsewhere in the pile of twisted instruments there may be other useful records.

With the discovery of the two new records the sum total of results now obtained for the flight include:

1. Salvage of the large spectroscope and its scientific records. This is the instrument which hung on a cable below the gondola and was released on its own parachute.
2. Recovery of part of the records taken on two other spectroscopes inside the gondola.
3. Recovery of both barographs for recording air pressure and hence the altitudes attained during the flight. The high elevation as given by both instruments is 60,613 feet—only 624 feet below the official world's altitude record made on the 1933 flight of Commander Settle and Major Fordney.
4. Proof that a stratosphere balloon can be built whose gondola is livable at extreme heights and that automatic instruments of the type employed worked perfectly. The pneumatic, automatic valve atop the balloon bag worked perfectly at all times.

*Science News Letter, August 11, 1934*

**IMPERIAL GATEWAY**

***The original paving can be seen in the foreground, over which must often have passed the wheels of King Sargon's chariots.***

PHYSIOLOGY

## Babies Under 5 Months Are Vitamin C Factories

VERY YOUNG babies provide their own supplies of vitamin C. This, the anti-scorbutic substance found in fresh vegetables and fruits, orange juice, etc., without which grown-ups can not live, is manufactured in the body of infants up to the age of five months, it is reported to the British scientific journal, *Nature*, by three investigators, Paul Rohmar, N. Bezsonoff and Ursula Sanders, from the medical faculty of the University of Strasbourg.

In its ability to produce its own vitamin C, the infant has a great advantage over the adult, and many animals. Birds and rats, however, also can produce their own vitamin C.

After the age of five months the infant gradually loses the faculty of producing in its own body this valuable substance, its power to do so disappearing entirely at the age of fourteen months. Thereafter it must obtain the vitamin from food.

*Science News Letter, August 11, 1934*

PSYCHOLOGY

## Psychology to Capture All The Sciences of Man

THE SCIENCE of psychology would expand and swallow up all the sciences that deal with man if the recommendations presented by Dr. William McDougall, professor of psychology at Duke University in Durham, N. C., to the International Congress of Anthropological and Ethnological Sciences, London, were put in effect.

He advocates the integration of sociology, archaeology, anthropology and other "human sciences" into an expanded psychology.

This new psychology, Dr. McDougall urged, should have "the right to pronounce upon all questions of empirical fact concerning the nature of man."

Out of his extensive experience in research and teaching in his native England, at Harvard and at much younger Duke University, Dr. McDougall shot these ideas at the scientists:

"The whole of knowledge is inevitably and always relative to man's own nature."

"This is the true and all comprehensive doctrine of relativity."

"To be scientific, history must become thoroughly psychological."

"Animal behavior is the most important branch of biology."

"All sciences are beginning to become conscious of the need for psychology and they even clamor for a psychology adapted to their requirement."

Dr. McDougall urged upon the scientists the necessity of working with a view to synthesis which alone can produce the much needed systematic psychology which will give a complete theory of man's nature and his relations to the physical world.

*Science News Letter, August 11, 1934*

PUBLIC HEALTH

## Business Recovery Shown By Fewer Suicides

BUSINESS recovery is being reflected slightly in a decline in the suicide rate, Dr. Frederick L. Hoffman, consulting statistician of Boston, Mass., has found. While there were over 21 suicides per 100,000 population in 1932, Dr. Hoffman found that in 1933 there were only slightly over 19 per 100,000.

Davenport, Iowa, for some unknown reason, leads the country, having almost twice as many suicides per 100,000 of its population as the country at large. Cities having the three lowest suicide rates were Williamsport, Pa., Troy, N. Y., and Lansing, Mich.

Firearms, hanging or strangulation and poisonous gas were the three leading methods of committing suicide during 1933.

*Science News Letter, August 11, 1934*

PUBLIC HEALTH

## Outbreak of Dengue Fever Reported From Miami

AN OUTBREAK of tropical disease, dengue fever, in Miami, Fla., has been reported to the U. S. Public Health Service. So far there have been 80 cases. Efforts are being made by local health authorities to check the spread of the disease by eradicating the mosquitoes which carry it.

Dengue fever is not a fatal disease but causes much suffering. It used to be confused with yellow fever, and occurs frequently in the Southern states as well as in tropical and other semi-tropical regions. During a recent outbreak in Greece almost the entire population suffered from it within a period of about six weeks.

*Science News Letter, August 11, 1934*

# IN SCIENC

SEISMOLOGY

## Earthquake Located In North Pacific Ocean

THE EARTHQUAKE recorded on seismographs Saturday afternoon, July 28, was centered in the north Pacific, about 150 miles southwest of Kodiak Island. Information reported from Bozeman, Mont., Tucson, Ariz., Ottawa, Canada, St. Louis University, Georgetown University, Honolulu and Manila allowed the U. S. Coast and Geodetic Survey to locate this strong submarine quake.

*Science News Letter, August 11, 1934*

GENERAL SCIENCE

## Industry Supporting Many Research Scholarships

OUT of 115 industrial concerns and associations, which are at present supporting 200 fellowships and scholarships at various American institutions, 77 are profit-making enterprises, indicating a belief that the education of young men in the field in which a company specializes will be of lasting benefit to hardboiled industrial corporations.

A list of fellowships and scholarships ranging from $250 to $2000 has been compiled by Dr. C. J. West of the National Research Council. It contains nearly every imaginable field from research in the vitamins of cranberries to the critical pressure in steam boilers, standard sizes and measurements of woven underwear to extreme-pressure lubricants and spark plugs.

Non-profit organizations which draw their membership from the staffs of numerous private companies working in allied fields also figure prominently in the list. The larger percentage deals in specialized courses, whereas in the private concerns, engineers are for the most part trained in general engineering fields such as chemistry, physics or mechanics. A number of fellowships are also maintained in government offices such as the National Bureau of Standards and the U. S. Bureau of Mines.

*Science News Letter, August 11, 1934*

# NCE FIELDS

PUBLIC HEALTH

## Typhoid To Be Fought By Local Health Officials

THE U. S. Public Health Service is leaving the fight against typhoid fever in drought areas to state and local health authorities. These officials are competent to handle the situation, the federal authorities state.

Control of the disease depends on sanitary measures which must be taken by the local authorities, it was pointed out.

The outbreak is limited to those small towns and rural areas where the water supply which is ordinarily safe has been exhausted and the inhabitants have turned to other water supplies that are contaminated.

Persons living in such areas or travelling through them may safeguard themselves by boiling all drinking water and boiling the milk unless it is pasteurized. The federal health authorities do not feel that the situation is acute enough to call for widespread preventive inoculations against typhoid fever.

Reports received by the U. S. Public Health Service for the week ending July 28 show that Indiana had an increase of two cases over the same period last year, Illinois had an increase of 36, Missouri of 43, North Dakota one, Nebraska two, and Kansas 23. South Dakota had just two cases for both years. Oklahoma and Texas showed a decrease, the former of six cases and the latter of 17 cases.

*Science News Letter, August 11, 1934*

ENTOMOLOGY

## Wood-Eating Termites Must Have Fungi on Food

TERMITES, destructive feeders on all wooden things, apparently need a dressing of fungi on their stiff diet, just as human gourmets require a certain mouldiness on cheese.

This point was brought out by Dr. Esther C. Hendee of the University of California, who discussed her termite researches before the meeting of the American Association for the Advancement of Science.

Dr. Hendee put similar batches of termites on three kinds of diet: well-rotted wood thoroughly riddled with fungi, new wood with a recent development of fungus growth, and new wood with no fungus at all. The insects throve best on the well-rotted wood, next best on the wood with fresh fungus growth.

On the fungus-free wood they did not do well at all. They lost weight and did not regain it. They were sluggish and inactive, and abnormal in appearance. They resorted to cannibalism to an excessive degree.

Dr. Hendee has therefore concluded that termites of the species she studied require fungus on the wood, as well as one-celled animals in their own digestive tracts, for the proper handling of their tough provender.

*Science News Letter, August 11, 1934*

MEDICINE

## Fight on Heart Disease Must Start With Children

THE FIGHT on heart disease must be made on childhood's front, it appears from facts reported by Dr. J. V. De Porte, statistician of the New York State Health Department.

Practically three-fourths of all cases of heart disease develop in children under ten years of age, according to estimates quoted by Dr. De Porte.

"The implication of this statement is most important," he declared. "The problem of our high mortality from heart disease should be attacked in the age period where most of the cases have their inception."

In one survey conducted by the State Health Department, more cases of heart disease were found among school children than of communicable, reportable diseases like measles and scarlet fever. In Essex County alone during one year physicians saw 535 cases of heart disease among children and only 312 cases of the reportable group of diseases.

The work of the school physician could be made of the utmost importance in connection with prevention of heart disease and reduction of the high death rate from this cause, Dr. De Porte pointed out. These physicians have an opportunity to discover the first symptoms of heart disease, often long before the parents are aware that anything is wrong.

*Science News Letter, August 11, 1934*

PHYSICS

## Cosmic Ray Expedition Takes Data in Bad Weather

BATTLING extremes of temperature and high gales atop Mt. Evans in Colorado, scientists of Massachusetts Institute of Technology have just completed successfully the first field tests of the largest cosmic ray meter ever constructed.

The object of the expedition, sponsored by the Carnegie Institution of Washington, was to test the meter in a wide variety of atmospheric conditions. The meter, weighing 3,200 pounds, is one of a new type designed by Dr. Arthur H. Compton, and built in the physics laboratories of the University of Chicago.

The heart of the apparatus is a large sphere of lead at whose center is a small chamber containing argon gas compressed to a pressure of 750 pounds to the square inch. The apparatus has an automatic photographic recording device and is compensated for changes in temperature and atmospheric pressure.

The device is one of seven being built for a world-wide survey which will be carried on by the Carnegie Institution over a period of five years. It is expected these heavy meters will operate continuously for the full period of five years. With them it is hoped to learn more about the nature of the mysterious and powerful cosmic rays which continually bombard the earth.

Dr. Compton believes that the results of this investigation will enable the correlation of variations in the intensity of the cosmic radiation with solar or sidereal time, variations in the intensity of the earth's magnetic field, the sunspot cycle, and other phenomena.

The expedition to Mt. Evans was under the leadership of Prof. Ralph D. Bennett of the electrical engineering department at Massachusetts Institute of Technology. He was accompanied by Gordon S. Brown and Henry Rahmel of the same department.

Preliminary observations were made on the campus of the University of Denver and at Echo Lake at an elevation of 10,600 feet. The apparatus was then taken to the peak of Mt. Evans, 14,120 feet above sea level, where the barometric pressure is 18 inches, and all the extremes of summer and winter weather may be experienced in the space of a few minutes.

*Science News Letter, August 11, 1934*

ETHNOLOGY

# England Long Ago Had Nudists

## Morris Dances, Horrifying to the Puritans, Were Performed Sometimes Nude and Without Even a Fan

By EMILY C. DAVIS

THEY HAD nudists in Merrie England, long ago. And so, as you might expect, they had a nudist problem.

The nudists of Merrie England went further than the later American variety. They did not stay modestly behind hedges and high board fences on their own strictly private playgrounds. They danced boldly in public and without any fans. The Puritans of Queen Elizabeth's day were shocked, and they spoke their minds about it plainly.

What the Puritans had to say about unclad persons skipping nonchalantly in public is written down in black and white, and vividly told, too. Still, it has never been clear what the Puritans were protesting about. Customs and dances having changed so much in four hundred years, it is difficult to get a mental picture of those Elizabethan social problems.

Nets, for instance, were somehow important and objectionable. "Dancing naked in nets!" exclaimed the Puritan writers, horrified.

But what was a net? And if a dancer wore one would it be naked dancing?

Probably historians a few centuries hence will be asking the same way: "What was a fan dancer? And could a fan be a costume?"

Now, visible evidence of the four-hundred-year-old nudists has been found in the form of a picture carved in wood. The picture, on an oak panel about 14 inches long, was once a decoration in one of England's most famous old castles.

The wood carver has caught a row of dancers in the midst of a spirited bit of skipping. They are, without much doubt, doing a figure in one of the quaint old morris dances, that enlivened outdoor festivals in England from medieval days on. Six of the seven are wearing picturesque costumes such as morris dancers traditionally wore.

But the little figure third from the left is wearing nothing to speak of. Here, evidently, is a snap-shot in wood that catches the very dance so horrifying to the Puritans.

The panel comes from Lancaster Castle, whence it was removed in the dismantling of some rooms. It is now in private hands.

Lancaster Castle has been restored many times since it was founded by the Normans, and the piece of carving has been pronounced, from the style and costumes, to date from near 1500 A.D., the reign of Henry the Seventh.

This verdict may make the wood carving the oldest picture of morris dancing preserved in England, where the morris dances are famous tradition fading back into a shadowy and uncertain origin.

The rare carving is attracting attention of experts on the curious customs of our human race. The English Folk Dance and Song Society has published a picture of the oak panel in its official Journal, together with opinions about the meaning of the scene. The Journal has also invited further comment, for the critics so far have found a good deal to puzzle them—particularly that little naked dancer carved in brown wood which brings up a practically lost page of Merrie England's follies.

### "Naked in Nets"

The picture sends the experts delving into Puritan writings. They bring up Fetherston's "Dialog against light, lewd, and lascivious dancing," composed in 1582. Fetherston reached the height of his denunciation in describing the greatest abuse of all which he called "dancers dancing naked in nets."

These net dancers and the rest of the morris crew invaded the churchyards in church time. You can scarcely wonder that the sober Puritans grew shrill in their protests. Here they were, trying to live up to rather difficult, narrow standards in a gay age, and the wildest sort of gayety forced itself right up on their church doorsteps.

Modern researchers find a long and bitterly vivid description of these scenes in the book of "abuses" that Puritan Philip Stubbes wrote.

### Even Around the Church

The morris dancers shame not, declared Stubbes, to come and dance round the church during divine service. Led by a Lord of Misrule, the band of dancers, most of them decked in liveries of green or yellow and with jingling bells tied around their legs and bright handkerchiefs fluttering in their hands, would come wildly dancing round the church "again and again," and then would settle down to lively feasting right in the churchyard.

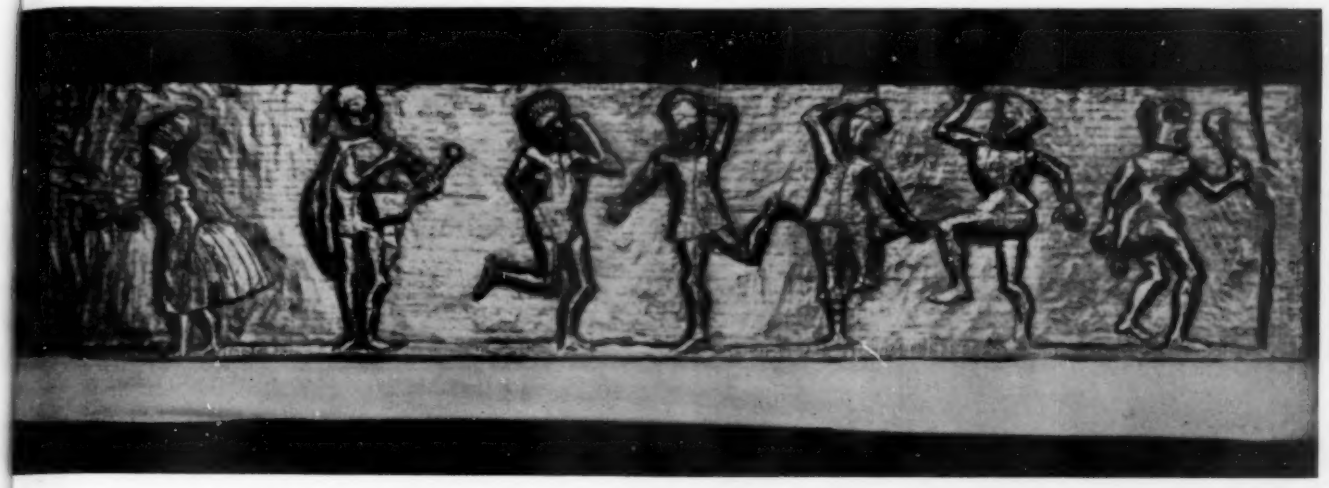
Modern nudist tactics seem tame beside this street scene of Elizabethan England.

Were they merely trying to tease the Puritans—those wild merry-makers?

The Puritans took life so seriously

A RELIGIOUS PRACTISE

***Dancing naked in nets was the equivalent of fan dancing in Elizabeth's reign. This wood carving from an old English church shows what the nets may have been. The woman riding a goat symbolizes sins to be avoided by church goers.***



**SHOCKING!**

***Nudist dancers shocked the Puritans of Queen Elizabeth's day. This carved oak panel from Lancaster Castle is pronounced visible evidence of the dancing that horrified the Puritans. Left to right are shown a man clowning as Maid Marian and taking up money for the dancers; a piper; a nude dancer; three dancers in quaint costumes with jingling bells, and a fool.***

that they were fair game for humorists. But in this case it seems that there was a traditional reason for what looks like perverse mischievous behavior—revelling in a churchyard with a service going on inside.

A clue is given by Miss Anne G. Gilchrist, who has summed up what she and other English critics think about the situation in the folk dance journal. She finds in the accounts of English churchwardens of 1508 and onwards, in several parishes, that the churches spent money on morris dancers' clothes for parish festivals and pageants.

"So," concludes Miss Gilchrist, "the invasion of the church on Sunday by a troop of revellers which was denounced by the Puritans in later times may at first have been countenanced especially as, from what Baxter recalls of the custom in his boyhood, the dancers in their 'antic' dresses and jingling bells seem to have remained during the reading of common prayer before hastening back to their play."

But would players airily dressed in nets have been welcome at church? Even those, Miss Gilchrist believes.

"It seems possible," she writes, "that these practically nude performers may originally have been allegorical figures in a pageant, and thus the 'abuse' of the Puritans might once have had a moral 'use' whose serious significance had been lost by time."

### Like Fleshings

Sir Edmund Chambers, authority on Elizabethan drama, has commented on the oak panel from Lancaster Castle. He says that the nets that shocked the Puritans may have been semi-transparent, and somewhat like the skin-tight, flesh-colored suits known as fleshings in modern theatricals.

Something of the sort can be seen in wood carvings in English churches that date back to the fourteenth, fifteenth, and sixteenth centuries. These carvings show nude men and women riding on goats, stags, or geese, and some are attired, or rather adorned, in nets, one with wide meshes plainly carved. The figures are explained as symbolic, representing sins to be avoided.

These nets may be similar to the nets that veiled, or failed to veil, the morris dancers. Doubtless, such figures as those carved in the churches paraded in the flesh when moral lessons were illustrated by morality dramas.

### The Original Godiva

In the oak panel with a nude dancer on it Sir Edmund sees a hint of the mysterious old story of Lady Godiva. Perhaps in the early days of the morris dancing there was a processional or folk dance featuring a lady dressed only in her hair—a lady who was expunged—to use Sir Edmund's word—before the written records of the morris dances began. Some such bit of medieval pageantry, he says, was undoubtedly back of the Lady Godiva story. It came to be embroidered into a history of a noble woman who sacrificed her pride by riding unclad through the streets of Coventry to save her city from oppression.

The little nude dancer carved in brown oak seems a long way from the Lady Godivas that you may see in art and pageantry today. She hasn't even a flowing mantle of bright hair—only a short curly shock on a boyish head.

That shock of short hair means that the nude dancer was a boy, masquerading as a girl, in the opinion of most critics. The morris dancers, like play actors, were generally men, in those days. Just as the roles of Juliet, Cleopatra, and Ophelia in the Shakespearian plays were acted by young boys, so the Maid Marian character in the morris dance—doubtless Lady Godiva, too—was considered a man's job.

It is a man dressed up as Maid Marian in the extreme left of the row of dancers in the oak panel. He is dancing the part grotesquely, mincing out to take up a collection with a ladle, from the people looking on.

Because men usually took the feminine roles in such productions, it is thought that naked nets may have been costumes to give dancing boys the appearance of girls.

### Nudism For Men Only?

Whether England's nudist dancers were men only, or whether there were women who took such roles also, remains to be explained. It is strange that so little was written about them. Only the Puritans grew sufficiently agitated to go on record about the situation, and that was rather late in the day. The wood carving from Lancaster Castle, much older than the Puritan writings, shows that nudist dancing was no brief flash but an affair that lasted somewhere near a century.

It makes you wonder whether modern interest in nudism will last as long. The pendulum has already begun to

**LADY GODIVA**

***The nudist dancer on the Lancaster panel sheds light on the mysterious old story of Lady Godiva. A lady dressed only in her hair who danced in early medieval pageantry was the beginning of the Godiva story, says one critic.***

swing back a little, it appears from the most recent views of physicians.

The modern nudist cult has prided itself on its scientific soundness. Sunlight on the skin has great health value. In the high snowy mountains of Switzerland, physicians have demonstrated that the sun cure would work wonders for tuberculous children. In warm sunny lands where children play out of doors, children are less often weakened by the bone deformities of rickets.

### Too Much Sunshine

But doctors have begun to warn against overdoses of sunshine. One physician of the Albany Medical College said that merely exposing hands and face to the moderate sunlight, such as occurs in the latitude of middle New York State, is sufficient to protect a child against rickets.

This physician, Dr. Arthur Knudson, was not speaking from general observation. His view is based on his expreiments with rats. When he shaved a mere one-eightieth of the surface of a rat's skin and bared that portion to the sun's rays, there was greater healing of rickets than when the whole animal was exposed. The sun, by this experiments, can do its protective work for adults or children in summer by moderate exposure as well or better than by the wholesale nudist method.

*Science News Letter, August 11, 1934*

RADIO

## Wireless Printer Writes Messages For Police

A NEW radio system developed by W. H. G. Finch of Hasbrouck Heights, N. J., enables police radio cars to receive departmental messages, by radio printers, similar to those of stock tickers or teletype machines.

The main criticism of police radio—that there was no assurance the particular car desired received the message, and that there was no permanent record—can be circumvented by the device. Police can receive the messages above the din of traffic and without strict attention to the message at its time of reception.

In describing the apparatus in the current issue of *Electronics*, it is declared that high secrecy can be secured by the system. It is possible to scramble the signal and have it automatically decoded at the mobile receiver and printer in the police car.

*Science News Letter, August 11, 1934*

PUBLIC HEALTH

# Typhoid-Stricken Circus Permitted to Travel

THE circus will come to town. Interstate travels of the Ringling Brothers-Barnum and Bailey Combined Circus need not be interfered with in spite of the outbreak of typhoid fever among circus personnel, the U. S. Public Health Service has decided.

Dr. K. E. Miller, officer of the Service, has investigated the outbreak, in which over 40 cases have been reported, and found that there were no carriers of typhoid fever among the performers or the food handlers of the circus troupe. Consequently the federal health authorities feel that there is no danger to the public health in permitting the circus to continue on its travels. However, they have notified the state health officers of Indiana and Pennsylvania, where the circus makes its next stops, of the outbreak.

An epidemiologist of the Michigan State Health Department is with the circus, studying the outbreak with a view to finding out where it originated. The first knowledge of it came while the circus was in Michigan. From the history of the outbreak, officials suspect that the circus personnel contracted the disease from contaminated milk.

Typhoid fever is caused by a bacillus. Its source is either some one who has the disease or else what scientists call a carrier. This is a healthy person who has recovered from the disease but still carries the disease-causing bacilli and discharges them from his body.

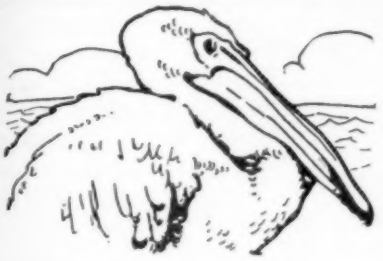
Polluted drinking water, milk, ice cream, oysters from polluted sea water, and fly-contaminated or carrier-contaminated foods are responsible for almost all traceable cases. A recent Canadian outbreak of over 600 cases was traced to cheese made from milk from producers whose families had typhoid fever.

Inoculation with heat-killed typhoid bacilli gives immunity to the disease which lasts for several years. This is generally recommended for persons who are travelling, particularly if they are going into rural areas where there is not adequate control of water and milk supplies and sewage.

*Science News Letter, August 11, 1934*

ORNITHOLOGY

## NATURE RAMBLINGS
*by Frank Thone*



### In Defense of Pelicans

THAT WONDERFUL bird, the pelican, focus of popular ornithological attention ever since his mandibular storage facilities were profanely (though poetically) estimated in terms of sennights, has for long been a cause of contention among naturalists. Friends of fishes, awed by the super-gastric capacity of his almost-avernal pouch, periodically rise to denounce him. Ired pro-pelicanists thereupon rise to his defense.

Most recent among these discussions of the pelican's activities as a living fish-trap is one that has been conducted in a leading conservation periodical, *California Fish and Game*. Herein Ben H. Thompson, of the U. S. National Park Service, appears in the role of *advocatus pelicanis*, refuting a writer in an earlier issue, who had accused the bird of scooping vast numbers of choice game fish out of fresh waters. Mr. Thompson points out that the white pelican (here singled out from its eastern kinsbird, the brown pelican) breeds on islands in saline lakes as well as in fresh, and secures its food indiscriminately from both sources. The white pelican, Mr. Thompson continues, cares no more for kind of fish than it does for source: catfish or carp are as welcome grist to his hopper as are trout or grayling. A large portion of its diet, he claims, is composed of fish and other aquatic animals considered unfit for food by man.

### No Storage

Most disillusioning to the layman, however, will be Mr. Thompson's disclosure that the pelican does not "store in that beak enough food for a week," nor, indeed, any food at all. When the pelican has made its catch, he says, it swallows it all and flies home with the fish "in ballast." At the nesting-ground it regurgitates the mess into its pounch, yawns widely, and permits its hungry young to dive deep into the parental "nosebag" for their semi-predigested meal. Messy, perhaps, from our point of view; but if the little pelicans like it that way, what business is it of ours?

It really is a bit of a disappointment, however, to have it revealed that the pelican's pouch is not a field-haversack but only a loosely looped domestic tablecloth!

*Science News Letter, August 11, 1934*

ANTHROPOLOGY

# Homo Sapiens May Be Ten Million Years Old

HOMO SAPIENS or man as we know him has lived longer on the face of the earth than science has hitherto supposed. He rose from among the other primates toward the geologic age known as Miocene. This makes him some 10,000,000 years old.

Discussion on man's place among the primates presented to the International Congress of Anthropological and Ethnological Sciences in London indicate that scientific opinion based on new facts and researches tends to the acceptance of these ideas.

The Oxford anatomist, Prof. W. Le Gros Clark, emphasized the paramount importance of American research on the anatomy of the foot and explained that Dr. Dudley J. Morton of the College of Physicians and Surgeons, Columbia University, New York, finds in the structure of the foot the strong suggestion that the human stock diverged from the anthropoid line of evolution when the common ancestors of man and other primates were little larger than the modern gibbon, a relatively small animal to be seen in most zoological gardens and belonging to the same Simiidae family as the chimpanzee, gorilla and orang-utan.

### Neandertal Not Intermediate

The Neandertal man, whose remains have been found plentifully in Europe, is no longer regarded as intermediate in evolution from the troglodyte apes, and man's resemblance to the gorilla is not attributed to the accident of parallel evolution upward from a remote common ancestor.

Of great interest to those who are attempting to puzzle out man's origin, is the espousal by Sir G. Elliot Smith, the British authority, of Dr. J. S. B. Leakey's conclusion that the anthropoids branched from the parent stem as early as the Oligocene epoch, the geologic time preceding the Miocene. Dr. Leakey has investigated extensively fossil beds abounding in animal remains near the shores of Lake Victoria in Kenya, East Africa, and he offered his discoveries, Kanam and Kanjera men, as very early types of humans.

### A New Niche

Dr. William K. Gregory of the American Museum of Natural History joined with Prof. G. Pinkley of London University in putting the Wadjak man, discovered in Java in 1889, into a new niche in human pre-history. This human type is known from a few fossils collected by Dr. Eugene Dubois, also "father" of the famous Pithecanthropus ape-man of Java. Dr. Dubois considered Wadjak man as a forerunner of the modern aboriginal Australians; but Prof. Pinkley concluded from a study of the teeth that Wadjak man, instead, foreshadows the Mediterranean type of man, who has played a much more important part in the world as we know it today.

*Science News Letter, August 11, 1934*

▼ RADIO ▲

**FIGHTING PLANT DISEASES**

**an address by**

**F. C. Meier**

**Principal Pathologist of the Bureau of Plant Industry, U. S. Department of Agriculture**

**Wednesday, Aug. 15, at 3:30 p. m., Eastern Standard Time, over Stations of the Columbia Broadcasting System. Each week a prominent scientist speaks over the Columbia System under the auspices of Science Service.**

ASTRONOMY

# Look For The Perseid Meteors This Week-End

AMATEUR astronomers throughout the country, many of them members of the American Meteor Society, are watching the night skies this month for the famous Perseid display of shooting stars.

This is one of the best months of the year to see meteoric visitors from outer space, and their observation is one of the few things that can be done in astronomy without the aid of a telescope. A pair of reasonably keen eyes, a willingness to sit up a good part of the night and a clear dark sky are the essentials.

When a meteor, or shooting star, encounters the friction of the earth's atmosphere, it is slowed in its motion, and burned. The flash that we see is the meteor's dying gasp.

Most meteors are seen during the hours from midnight to dawn, for then we are on the advancing side of the earth, and so we meet them head on. Those that are seen in the evening hours must catch up to us, and few are moving fast enough to do this. But on any night in August, if a person gets away from the glare of city lights, two or three shooting stars can probably be seen every hour, even before midnight, and after that the number may increase to a dozen or more.

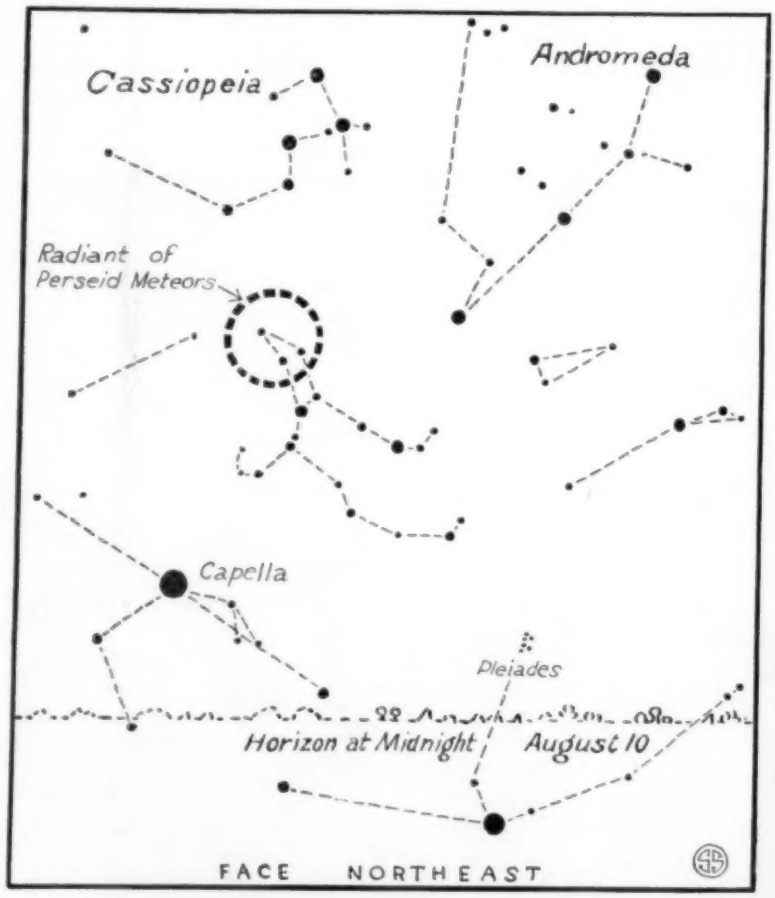
On two particular nights, these numbers will be greatly increased. In the early morning hours of Saturday, August 11, and Sunday, August 12, several hundred an hour will probably be seen, weather permitting. If you watch at these times, you can assist the astronomer who studies meteors. First of all, he wants to know the number of meteors, so it is a real help to count all that you see, in any part of the sky, by half hour periods. If you know the constellations, and have access to a map of the stars, it is a further help to plot the paths of those that you see on such a map.

When so plotted, it is found that the August meteors do not flit about the sky at random, but their paths all radiate from a point in the constellation of Perseus, which can be seen in the northeast soon after midnight. It is just below the constellation of Cassiopeia, which is shaped like the letter W on its side, and just above the bright star Capella. The August meteors are therefore called the Perseids. Other showers of meteors, appearing in other months, radiate from other constellations.

Although they seem to radiate from one point, they are moving in parallel paths, which apparently converge in the distance, like the tracks of a railroad. They travel in a ring-shaped cloud around the sun, and every August the earth crosses their paths. This ring corresponds very closely to the orbit of Tuttle's comet, which was observed many times during the last century, but has not been observed in recent years. Perhaps the meteors are the remains of the comet, for the two forms of body are believed to be closely related.

Dr. Charles P. Olivier, director of the Flower Observatory of the University of Pennsylvania, at Upper Darby, Pa., is president of the American Meteor Society, and a leading authority on shooting stars. He has announced that he will be glad to receive reports of amateur observations. Such reports should give the place from which the observations were made, the times, the number of people watching, the numbers of meteors seen during half hour periods, and notes of any changes that occurred in the clearness of the sky during the time of watching. The moon will be new on August 10, so the nights of the Perseid shower will be dark.

*Science News Letter, August 11, 1934*




**MAP FOR HUNTING METEORS**

***Best results in meteor hunting on the nights of August 11 and 12 may be obtained if the observer goes out in the country away from the city's glare. First find the constellation Perseus, the apparent center of meteor radiation. This can be done if the star, Capella, one of the brightest in the northeastern heavens, is found. The larger the dots representing the stars on this map, the brighter are the stars. The stars shown below the horizon may not be visible when you first look for them. They will appear, however, in the early morning hours when meteor hunting is best.***

# First Glances at New Books

**Physics**

THE MYSTERIES OF THE ATOM—H. A. Wilson—*Van Nostrand,* 145 p., $2.50. This discusses the new ideas of physics which have come into being during the 20th century as the result of the collapse of classical theories. The new facts and what science thinks about them are told without entering into technical details.

*Science News Letter, August 11, 1934*

**Bibliography**

ALUMNI READING LISTS—Edith Thomas and T. R. Barcus, Compilers—*University of Michigan,* 209 p., $1.25. Here is a university which takes an intelligent interest in its graduates after they leave Michigan! Good, readable books on almost every subject are listed with annotations, and the lists have been brought up to date since the first edition, published in 1931.

*Science News Letter, August 11, 1934*

**Medicine**

THE MEDICAL PROFESSION AND THE PUBLIC: CURRENTS AND COUNTER-CURRENTS—*American Academy of Political and Social Science,* 112 p., $1. Contains papers read at a joint meeting of The College of Physicians of Philadelphia and The American Academy of Political and Social Science.

*Science News Letter, August 11, 1934*

**Hygiene**

NARCOTICS AND YOUTH TODAY—Robert E. Corradini—*Foundation for Narcotics Research and Information, Inc.,* 113 p., cloth bd. 60c., paper bd. 30c. Designed to teach boys and girls the scientific facts about narcotic drugs including alcohol.

*Science News Letter, August 11, 1934*

**Medicine**

A SOLDIER IN SCIENCE, THE AUTOBIOGRAPHY OF BAILEY K. ASHFORD—*Morrow,* 425 p., $3.50. Col. Ashford's career as soldier-scientist has been full of drama as well as distinction. With the assistance of Mrs. Elizabeth Kneipple Van Deusen, he has written a vivid account of that career. Here is one of the few autobiographies that will be read through to the end.

*Science News Letter, August 11, 1934*

**Chemistry**

ELEMENTARY QUALITATIVE ANALYSIS—F. M. Brewer—*Oxford University Press,* 228 p. $2. British text that attempts to avoid the classical approach to the subject by way of the historical accidents which have built it up into the maze it often seems. The attempt succeeds in two ways. First, besides giving the usual tests, the author tells *why* the procedure used is adopted. Second, he shows how the reactions employed furnish a comparative study of the elements particularly with reference to the periodic table.

*Science News Letter, August 11, 1934*

**General Science**

MIND AND NATURE—Hermann Weyl—*University of Pennsylvania Press,* 100 p., $1.50. Reprint of five lectures delivered at Swarthmore College in 1933 dealing with the way man studies natural phenomena by the mathematical and physical method of approach. Touching sense perception, consciousness, relativity and quantum physics the reader, unless he has a wide background, may be in for trouble.

*Science News Letter, August 11, 1934*

**Chemistry**

ARSENICAL AND ARGENTIFEROUS COPPER—J. L. Gregg—*Chemical Catalog,* 189 p., $4.00. Another of the readable American Chemical Society monographs with chapters on the history, production, properties and uses of arsenic and silver-contaminated copper.

*Science News Letter, August 11, 1934*

**Patent Law**

THE PROTECTION BY PATENTS OF SCIENTIFIC DISCOVERIES—Committee on Patents, Copyrights and Trademarks, American Association for the Advancement of Science—*Science Press,* 40 p., 50c.

*Science News Letter, August 11, 1934*

**Library Science**

BOOKLIST BOOKS, 1933—*American Library Association,* 58 p., 65c. Each week the A. L. A. sends out lists of new books to librarians throughout the country, for checking. The best and most valuable books of the year's "crop" are selected, annotated, grouped under subject, and published annually by the Booklist staff of the A. L. A. The publication is valuable to libraries and schools of course; almost invaluable to readers situated far from libraries, who must select books "sight unseen."

*Science News Letter, August 11, 1934*

**Chemistry**

LES PHÉNOMÈNES PÉRIODIQUES DE LA CHIMIE: II—LES PERIODICITES CINETIQUES—Suzanne Veil—*Hermann et Cie., Paris,* 31 p., 10 francs.

*Science News Letter, August 11, 1934*

**Chemistry**

LE PROBLÈME DE LA CONSTITUTION DE L'AMIDON—R. Sutra—*Hermann et Cie., Paris,* 40 p., 10 francs.

*Science News Letter, August 11, 1934*

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# First Glances at New Books

**Geophysics**

EARTH, RADIO AND THE STARS—Harlan True Stetson — *Whittlesey House,* 336 p., $3.00. The first book on what may become a new division of science coordinating astronomy, geology and radio engineering into a study of the earth and its cosmic surroundings.

Much original research material of Professor Stetson on tides in the earth and the effects on radio transmission attributed to the moon and sun are included. This should not frighten away the lay reader, however, for the pleasing conversational style of the author takes technical details in stride.

*Science News Letter, August 11, 1934*

**Physics**

ATOMIC THEORY AND THE DESCRIPTION OF NATURE—Neils Bohr—*Macmillan,* 119 p., $2. The four essays of the Nobel Prize winner on atomic and quantum theory now collected in one compact volume. The first two appeared in *Nature* in 1925 and 1927. The third and fourth, written in 1929, have never been available in English before.

*Science News Letter, August 11, 1934*

**Physics**

THE PHENOMENON OF SUPERCONDUCTIVITY—E. F. Burton, ed.—*University of Toronto Press,* 112 p., $2.50.

Direct from one of the best low temperature laboratories in the Western hemisphere comes this monograph on the methods of producing and measuring low temperatures with an outline of the basic facts of superconductivity.

*Science News Letter, August 11, 1934*

**Chemistry**

ANNUAL SURVEY OF AMERICAN CHEMISTRY—Clarence J. West, ed.—*Chemical Catalog Co.,* 403 p., $4.50. The progress report of American chemistry for 1933 edited by the director of the information service of The National Research Council.

*Science News Letter, August 11, 1934*

**Chemical Engineering**

TRANSACTIONS OF THE INSTITUTION OF CHEMICAL ENGINEERS, VOL. 11, 1933—*Institution of Chemical Engineers (London),* 227 p.

*Science News Letter, August 11, 1934*

**Medicine**

MEDICINE MARCHES ON—Edward Podolsky—*Harper,* 343 p., $3.50. This book tells in simple terms about the newest things in medicine—the treatment of glandular disorders, psychoanalysis, the radio knife, the fever treatment for paresis, the latest reducing medicine, and the like. To the conservative physician, Dr. Podolsky may seem over-enthusiastic about some of the new healing methods, but his book does give much interesting and apparently reliable information on a wide variety of medical subjects.

*Science News Letter, August 11, 1934*

**Philosophy**

VITALISM AND MECHANISM, A DISCUSSION—Herbert V. Neal and James F. Porter—*Pub. by the author,* 87 p., 50 c. A professor of zoology and a businessman of scholarly inclinations splinter a number of lances of good-natured controversy on each other's shields. In the end both ride off, neither admitting defeat, so that the spectator may "go out by that same door where in he went." But he carries with him the memory of having seen some good jousting—and he may possibly be moved to look to his own gear and rub off some of its rust.

*Science News Letter, August 11, 1934*

**Philosophy**

LES ÉNOUNCÉS SCIENTIFIQUES ET LA RÉALITE DU MONDE EXTÉRIEUR—Moritz Schlick—*Hermann et Cie., Paris,* 51 p., 10 fr.

*Science News Letter, August 11, 1934*

**Physical Chemistry**

LES COMPOSÉS MICELLAIRES SELON LA NOTION DE COMPLEXITÉ CROISSANTE EN CHIMIE—G. Malfitano et M. Catoire—*Hermann et Cie., Paris,* 33 p., 9 fr.

*Science News Letter, August 11, 1934*

**Physics**

TRAITÉ DE CHIMIE PHYSIQUE—J Duclaux—*Hermann et Cie., Paris.* Introduction: L'Analyse Physico-chimique des Fonctions Vitales, 27 p., 6 fr.; Chap. 1: Étude de l'Eau et des Solutions, Azéotropisme—Démixtion, 76 p., 17 fr.; Chap. 2; Viscosité, 80 p., 18 fr.; Chap. 3; Rigidité Thixotropie Coacervation, 38 p., 10 fr.; Chap. 4: Capillarité, 57 p., 12 fr.; Chap. 5: Suspensions Émulsions, 40 p., 12 fr.

*Science News Letter, August 11, 1934*

**Industrial Medicine**

THE PNEUMONOKONIOSES (SILICOSIS) BIBLIOGRAPHY AND LAWS—George G. Davis, Ella M. Salmonsen and Joseph L. Earlywine—*Industrial Medicine, Inc., Chicago,* 482 p., $7.50. The references in this book are gathered from the literature of the world, beginning with Agricola's "De Re Metallica" in 1556 and ending with the last published reference in December, 1933. It is planned to issue later volumes annually.

*Science News Letter, August 11, 1934*

**History**

THE ROMANCE OF LABRADOR—Sir Wilfred Grenfell—*Macmillan,* 329 p., $4.00. As vivid and alluring as the beautiful photographs which illustrate the book is the word picture Sir Wilfred has painted of the land he has served so long and well. Even the most casual glimpse at the pages of this book makes the reader lose his feeling that Labrador is just a spot on the map, a frozen waste.

*Science News Letter, August 11, 1934*

**Medicine**

THAT HEART OF YOURS—S. Calvin Smith—*Lippincott,* 212 p., $2. Both the person who has heart trouble and the person who thinks he has it will find help and encouragement of a very practical nature in this book. A number of illustrations assist in explaining the structure of the heart, its relation to other organs, its action and some of the things that may disturb its action.

*Science News Letter, August 11, 1934*

**Physics**

THÉORIE DE LA CONNAISSANCE ET PHYSIQUE MODERNE—Philipp Frank—*Hermann et Cie., Paris,* 53 p., 10 fr.

*Science News Letter, August 11, 1934*

**Spelling**

SPELLING FOR TRADE AND TECHNICAL STUDENTS—John T. Shuman—*Christopher Publishing House,* 133 p., $1.25. A spelling textbook written by a high school instructor who is anxious that students heading toward technical or trade vocations will know how to spell words specific to those fields.

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